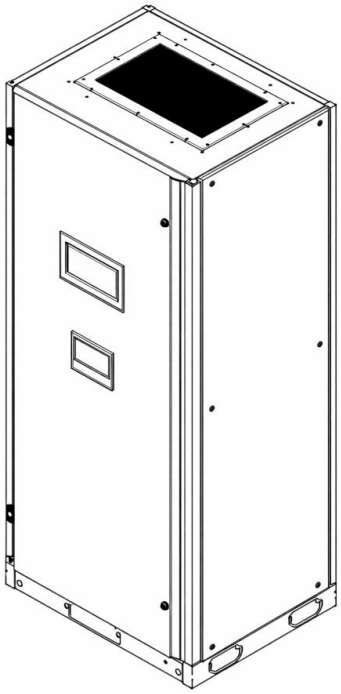
9kw data center air conditioner



Data center Air Conditioner
CY-A09NA
Changzhou Chen Tong Yuan Communication Equipment Co.,Ltd
Please read the data sheet carefully before application, and contact us for further technical information
Email:info@cytech.org.cn

Introduction

In the dynamic landscape of modern technology, data centers serve as the beating heart of our interconnected world. These facilities house an extensive network of servers and electronic equipment, generating substantial heat as they process and store vast amounts of data. Managing this heat is critical to ensure the reliable and efficient operation of the equipment, and this is where data center air conditioners come into play.

Refrigeration system

◆system composition： The data center air conditioner consists of main components such as compressors, condensers, evaporators, electrical control systems, expansion valves, and fans.
◆refrigeration principle：

The compressor sucks in gaseous refrigerant from the evaporator and compresses it into a high temperature and high pressure state before discharging it into the condenser. The refrigerant releases heat in the condenser and is cooled into a high-pressure liquid, which is throttled by the expansion valve to form a low-temperature and low-pressure refrigerant and enters the evaporator. The refrigerant absorbs heat in the evaporator and is converted into a gaseous state, which is then sucked in by the compressor. So repeated, the refrigeration cycle.

The condenser and evaporator are each equipped with circulating fans to enhance air convection and enhance heat transfer efficiency. Among them, the heat exchange between the condenser and the air is carried out outside the machine room, while the heat exchange between the evaporator and the air is circulated inside the enclosed machine room.

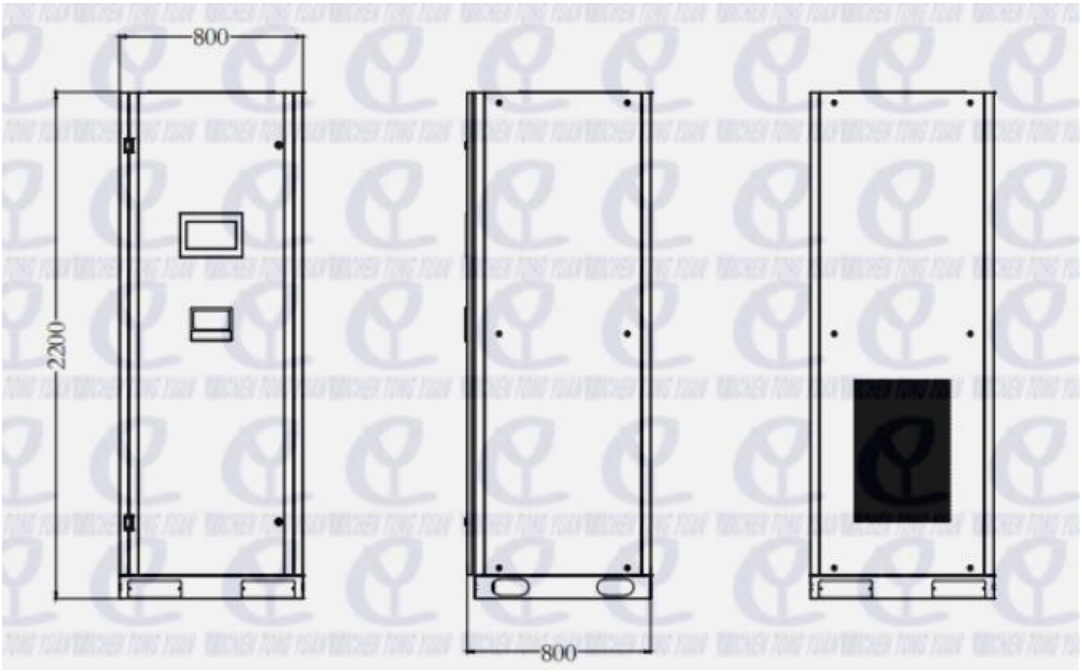
The electrical control system mainly monitors the temperature inside the cooled computer room and controls the cooling cycle through temperature setting requirements.

Parameters of data center air conditioner

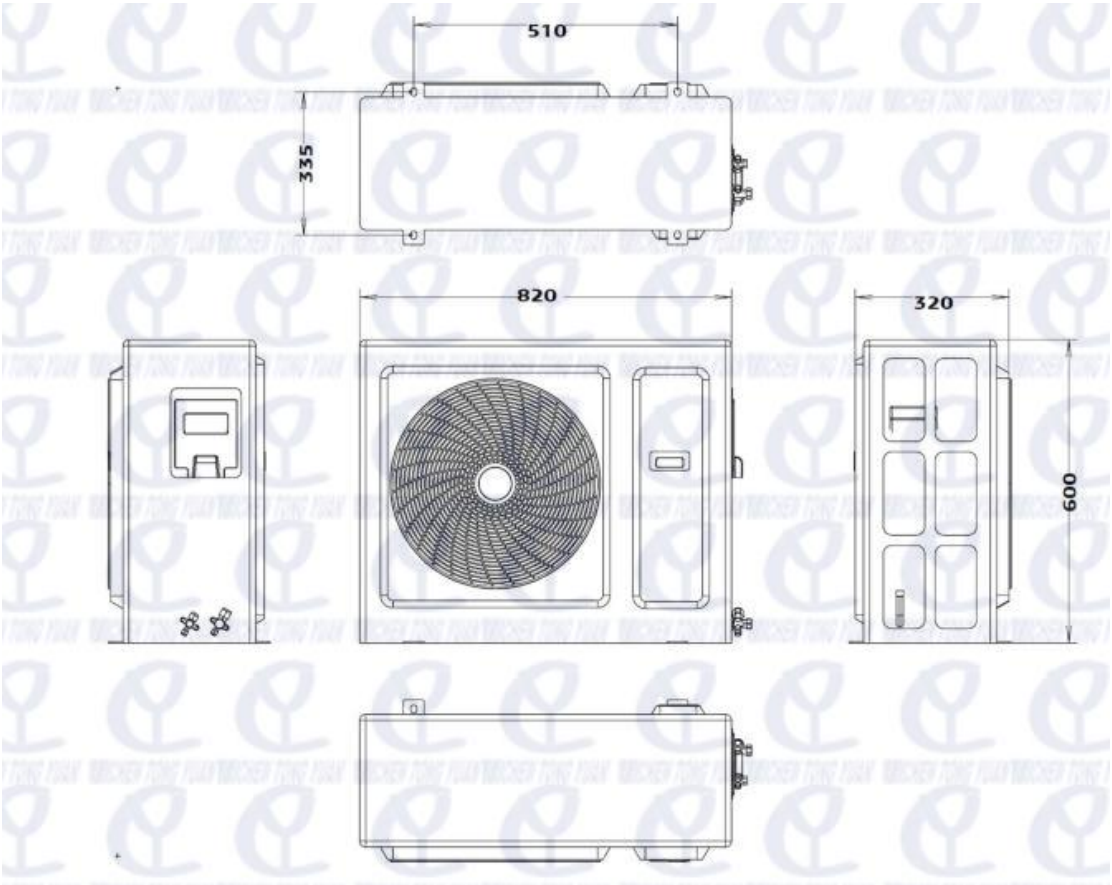
Product Name	Data center air conditioner
Model	CY-A09NA
Rated voltage	AC 220V±15%
Rated Frequency	50HZ±2%
Cooling capacity	9KW
Power consumption	3.6KW
Refrigerant	R407C/2.6kg
Heater	3kw
External Size	H*W*D=2200*800*800mm

Equipment Outline Drawing

Inner unit:



Outer unit:



Installation and Maintenance

Indoor unit condensate water drainage pipe

The condensate water from the evaporator is discharged through a drain pipe. Due to the absence of water pressure, the water flows naturally, and the pipe diameter is selected as a 23mm PVC pipe. The drain pipe should have a certain slope, with the inside higher and the outside lower, to ensure smooth drainage.

Note: After installation, a drainage test should be conducted to observe whether water drains smoothly from the drainage pipe.

All maintenance work must be carried out by qualified professionals. Before carrying out maintenance, please disconnect the power and signal lines of the air conditioner. After the maintenance work is completed, reconnect the power and signal lines of the air conditioner. As air conditioners usually work together with outdoor cabinets in harsh outdoor environments, such as high temperature, humidity, and dusty conditions, preventive maintenance and routine maintenance should be carried out to ensure that the air conditioning equipment can operate in good condition at all times. The routine maintenance cycle should not exceed six months, and cleaning and maintenance should be carried out before summer to ensure that the air conditioner is in good working condition and can meet the demand during the peak cooling period.

Note: Maintenance work on the air conditioner can only be carried out when the power is completely turned off.